Irrigation Water Conveyance/ Low Pressure Plastic

PRACTICE INTRODUCTION

USDA, Natural Resources Conservation Service - practice code 430EE 04/02

DEFINITION

Irrigation Water Conveyance is a pipeline and appurtenances installed as an integral part of an irrigation system.

PRACTICE INFORMATION

Low pressure underground pipelines are thermoplastic pipelines ranging from 4 inches to 18 inches in diameter that are closed to the atmosphere and subject to internal pressures up to 50 lb/sq. inch. These pipelines may have vents open to the atmosphere, or sealed pressure-relief valves and/or air-and-vacuum-relief valves to properly vent the system.

The purpose of the practice is to reduce erosion, conserve water, and protect water quality. Underground pipelines serve as an integral part of the irrigation water distribution system, and significantly improve the overall efficiency of the system.

This practice requires proper design and installation to function properly.

Additional information including design criteria and specifications are in the local NRCS Field Office Technical Guide.

The following pages list the conservation effects expected to occur when this practice is applied. These effects are subjective and somewhat dependent on variables such as climate, terrain, and soil. Users are cautioned that these effects are estimates that may or may not apply to a specific site.

CONSERVATION PRACTICE PHYSICAL EFFECT WORKSHEET

STATE		FIELD OFFICE		DATE	

PRACTICE: 430EE Irrigation Water Conveyance - high pressure plastic	NOTES:
RESOURCE: SOIL **RESOURCE CONCERN: EROSION**	
RESOURCE INDICATORS	**PHYSICAL EFFECTS**
SHEET AND RILL	moderate reduction in sheet and rill erosion
WIND	insignificant
EPHEMERAL GULLY	moderate reduction in ephemeral gully erosion
CLASSIC GULLY	insignificant
STREAMBANK	N/A
IRRIGATION INDUCED	significant reduction in irrigation induced erosio
SOIL MASS MOVEMENT	N/A
ROADBANK/CONSTRUCTION	N/A
OTHER	
RESOURCE CONCERN: **SOIL CONDITION**	
SOIL TILTH	N/A
SOIL COMPACTION	N/A
SOIL CONTAMINATION	
• SALTS	N/A
• ORGANICS	N/A
• FERTILIZERS	N/A
• PESTICIDES	N/A
• OTHER	
DEPOSITION/DAMAGE	
• ONSITE	moderate reduction/onsite deposition damage
• OFFSITE	moderate decrease/offsite deposition damage
DEPOSITION/SAFETY	
• ONSITE	moderately improve onsite safety/deposition
• OFFSITE	moderately improve offsite safety hazard/depos.
OTHER	
RESOURCE: **WATER** RESOURCE CONCERN: **WATER QUANTITY**	
SEEPS	N/A
RUNOFF/FLOODING	N/A
EXCESS SUBSURFACE WATER	N/A
INADEQUATE OUTLETS	N/A
WATER MGT. IRRIGATION	
• SURFACE	significant improvement in irrigation efficiency
• SPRINKLER	significant improvement in irrigation efficiency
WATER MGT. NON-IRRIGATED	N/A
RESTRICTED FLOW CAPACITY (H20 convey.)	
• ONSITE	moderate improvement in onsite drainage
• OFFSITE	moderate improvement in offsite drainage
RESTRICTED STORAGE	moderate reduction in sedimentation of H20 stroage

RESOURCE: **WATER** RESOURCE CONCERN**: WATER QUALITY**	
RESOURCE INDICATORS	**PHYSICAL EFFECTS**
GROUNDWATER CONTAMINANTS	
• PESTICIDES	N/A
• NUTRIENTS AND ORGANICS	N/A
• SALINITY	N/A
• HEAVY METALS	N/A
• PATHOGENS	N/A
• OTHER	
SURFACE WATER CONTAMINANTS	
• PESTICIDES	N/A
• NUTRIENTS AND ORGANICS	N/A
• SUSPENDED SEDIMENTS	N/A
• LOW DISSOLVED OXYGEN	N/A
• SALINITY	N/A
• HEAVY METALS	N/A
• WATER TEMPERATURE	N/A
• PATHOGENS	N/A
AQUATIC HABITAT SUITABILITY	N/A
OTHER	
RESOURCE: **AIR** RESOURCE CONCERN: **AIR QUALITY**	
AIRBORNE SEDIMENT AND SMOKE PARTICLES	
• ONSITE SAFETY	N/A
• OFFSITE SAFETY	N/A
• ONSITE STRUCT. PROBLEMS	N/A
• OFFSITE STRUCT. PROBLEMS	N/A
• ONSITE HEALTH	N/A
• OFFSITE HEALTH	N/A
AIRBORNE SEDIMENT CAUSING CONVEYANCE PROBLEMS	N/A
AIRBORNE CHEMICAL DRIFT	N/A
AIRBORNE ODORS	N/A
FUNGI, MOLDS, AND POLLEN	N/A
OTHER	
RESOURCE CONCERN: **AIR CONDITION**	
AIR TEMPERATURE	N/A
AIR MOVEMENT (windbreak effect)	N/A
HUMIDITY	N/A
OTHER	

RESOURCE: **PLANT** RESOURCE CONCERN: **SUITABILITY**	
RESOURCE INDICATORS	**PHYSICAL EFFECTS**
SITE ADAPTATION	slight improvement in plant suitability/site adapt
PLANT USE	slight improvement in plant suit. for intended use
OTHER	
RESOURCE CONCERN: **CONDITION**	
PRODUCTIVITY	moder. improvement in plant cond./ productivity
HEALTH, VIGOR, SURVIVAL	moder. improvement in plant health,vigor,survival
OTHER	
RESOURCE CONCERN: **MANAGEMENT**	
ESTAB., GROWTH, HARVEST	moder. improvement in plant estab.,growth,harvest
NUTRIENT MANAGEMENT	N/A
PESTS	N/A
THREAT/ENDANGERED PLANTS	N/A
OTHER	
RESOURCE: **ANIMAL** RESOURCE CONCERN: **HABITAT**	
FOOD	N/A
COVER/SHELTER	N/A
WATER (QUANTITY & QUALITY)	N/A
OTHER	
RESOURCE CONCERN: **MANAGEMENT**	
POPULATION BALANCE	N/A
THREAT/ENDANGERED ANIMALS	N/A
HEALTH	N/A
OTHER	
RESOURCE: **HUMAN** RESOURCE CONCERNS**: ECONOMIC CONSIDERATIONS**	
PLAN / COST EFFECTIVENESS	significantly cost effective
CLIENT FINANCIAL CONDITION	moderately cost effective
MARKETS FOR PRODUCTS	N/A
AVAILABLE LABOR	significant decrease in labor requirement
AVAILABLE EQUIPMENT	moderate decrease in equip. needed

RESOURCE: **HUMAN** RESOURCE CONCERN: **SOCIAL CONSIDERATIONS**	
RESOURCE INDICATORS	**PHYSICAL EFFECTS**
PUBLIC HEALTH AND SAFETY	slight improvement in public health & safety
PRIVATE/PUBLIC VALUES	slight improvement in private/public values
CLIENT CHARACTERISTICS	N/A
RISK TOLERANCE	insignificant risk involved
TENURE	N/A
OTHER	
RESOURCE CONCERN: **CULTURAL CONSIDERATIONS**	
ABSENCE/PRESENCE OF CULTURAL RESOURCES	situational regarding cultural resources
SIGNIFICANCE OF CULTURAL RESOURCES	situational regarding cultural resources
MITIGATION OF NEGATIVE CULTURAL RES. IMPACTS	situational regarding cultural resources
OTHER	